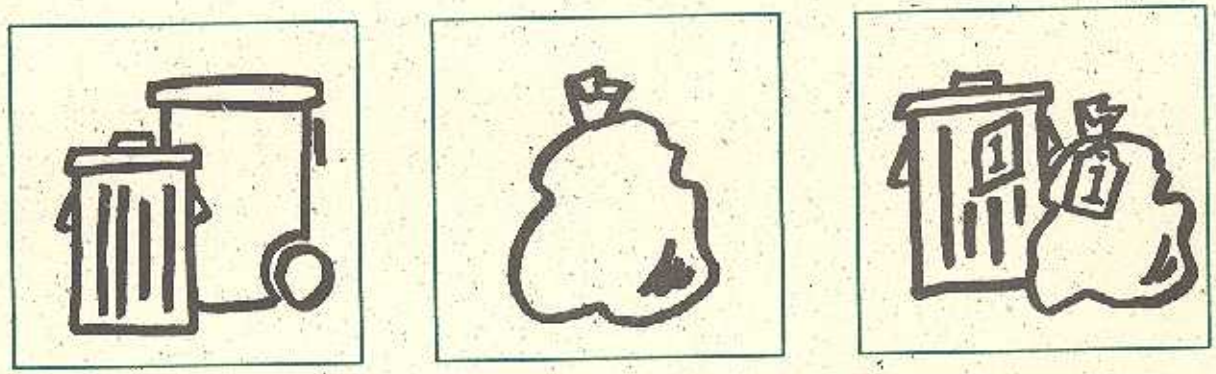
Pay-As-You-Waste:

State of Iowa Implementation Guide for Unit-Based Pricing



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Introduction

All communities in Iowa are examining and evaluating strategies to achieve the state reduction goals for solid waste being landfilled: 25 percent by 1994 and 50 percent by the year 2000. In complying with these goals, many Iowa communities implemented waste reduction programs including recycling, yard waste composting, and source reduction. These programs have largely been successful in achieving the 25 percent reduction. However, most observers agree that maintaining this reduction and meeting the remaining 25 percent reduction will be much more difficult to achieve and that existing waste management programs alone will be hard pressed to meet the goal. *Pay-As-You-Waste: The State of Iowa Implementation Guide* introduces another strategy, unit-based pricing, that is gaining support as an essential component in waste reduction efforts. The guide is intended to assist local decision makers and citizens design and implement unit-based pricing programs in their communities.

Definition of Unit-Based Pricing

Unit-based pricing, also known as variable rate pricing, user pay, or pay-as-you-throw, is a system in which residents pay for municipal solid waste management services per unit of waste collected rather than through a fixed fee or property taxes. As a consequence of pricing solid waste collection and disposal services in this way, residents who put out more garbage pay more than those who put out less garbage. Residents, therefore, are provided a financial incentive to reduce, through source reduction and recycling, the amount of waste placed on the curb.

Recognizing the potential of unit-based pricing in reducing waste, the 1994 Iowa General Assembly adopted Senate File 2300. The legislation requires that solid waste planning areas, failing to meet the 25 percent reduction goal, develop draft ordinances to be

used by local governments for establishing collection fees that are based on volume or the number of containers used for disposal by residents.

The Implementation Guide

This guide explains the process of planning, developing, and implementing a unit-based pricing program. The guide provides information on design options for unit-based pricing programs, financial considerations in implementing a program, and promotional and educational approaches for a successful program.

The guide is based on communities' experiences with unit-based pricing across the United States and Canada. In addition, a survey was conducted in February 1995, of all 951 communities in Iowa was conducted to determine the status of unit-based pricing in Iowa. Five hundred seventy communities returned surveys for a response rate of approximately 60 percent. Of these communities, 83 indicated that they have implemented unit-based pricing programs. These programs are located in 33 of Iowa's 99 counties and serve a population of approximately 236,000 residents.[1] Information obtained through the survey includes the design and age of the programs, planning and implementation barriers experienced in establishing programs, and the effect of unit-based pricing on communities' waste reduction and recycling efforts. Throughout the guide, survey results are used to illustrate the planning and implementation steps to establishing a unit-based pricing program.

The guide is divided into four major sections: 1) program description and design, 2) public education and promotion, 3) financial issues and rate structure, and 4) three community case studies. In addition, the following information is located in the appendices: a quick reference map of unit-based pricing programs in Iowa by county; a list of Iowa communities with unit-based pricing by population; a quick reference guide describing each community's program; and a recommended implementation schedule.

[1] Statistics in the guide are from a survey conducted in February 1993. This edition of the guide however includes an updated list of participating cities as of March 1, 1997.

Update

This guide was updated in March 1997, using information received through phone surveys and solid waste comprehensive plans received by the Iowa Department of Natural Resources. This updated implementation guide contains information on 152 Iowa communities that have implemented unit-based pricing programs.

Educational Video

In addition to the implementation guide, an educational video is also available. The video, *Solid Waste Strategies: Unit-Based Pricing,* provides background information on unit-based pricing and discusses the effectiveness of this solid waste management strategy. Local and national experts in solid waste management explain how to plan, design, and implement a successful program. *Solid Waste Strategies: Unit-Based Pricing* is available from the Waste Management Assistance Division of the Iowa Department of Natural Resources.

For further information on unit-based pricing and assistance in implementing a program, contact the following:

Iowa Department of Natural Resources
Waste Management Assistance Division
Wallace State Office Building
900 East Grand Avenue
Des Moines, Iowa 50319
(515) 281-4367

Description and Design

Traditionally, communities in the United States have used flat fees, property taxes, or a combination to finance collection and disposal of the residential waste stream. With these financing approaches, a household's payment is fixed regardless of the amount of solid waste disposed. As a consequence, no economic incentive is provided to households to reduce waste generation. In addition, those households putting out less garbage are, in effect, subsidizing households putting out more.

In using property taxes, municipalities take a percentage of the tax levy from the general fund to pay for waste management. Commercial, industrial, multi-family, and institutional properties, therefore, may be subsidizing residential waste management through property taxes, while at the same time paying a private hauler to take away their waste.

With a flat fee financing system, municipalities take the cost of managing the municipal waste stream and divide that cost by the number of single-family households. In other words, an average cost per household is calculated. The residential sector as a whole pays for the true cost of residential waste collection and pickup. However, residents are still unaware of their individual contribution to waste management costs and are given no incentive to reduce the waste they generate.

With unit-based pricing, residents are charged for waste management based upon the amount, either weight or volume, of waste collected. This method is similar to how other utilities are priced. For example, a household's electrical and water bills are based upon the amount of water or electricity consumed. Unit-based pricing charges the household for the amount of waste collection and disposal services consumed. The household generating more waste pays more. If waste management services are priced properly, households examine alternatives for reducing costs. Therefore, the household reducing its waste through recycling and other strategies saves more.

Potential Benefits and Costs of Unit-Based Pricing

There are a number of potential benefits and costs associated with implementing unit-based pricing that communities should take into account when planning and designing a program. Full understanding of these benefits and costs will help communities establish objectives for their unit-based pricing programs.

Potential Benefits:

- **Reduction of Waste Being Landfilled.** Through unit-based pricing, residents are provided an economic incentive to reduce the waste they send to the landfill. Pricing solid waste collection and disposal services establishes a link between the amount a household throws away and what that household pays. This link causes the household to examine ways to reduce its overall garbage bill. Reduction may occur as a result of increased participation in existing recycling and yard waste composting programs. Households may also change their buying habits and begin backyard composting in an effort to reduce their garbage bill. On the original survey, 96 percent of the responding unit-based pricing communities in Iowa reported a decrease in waste landfilled in the year following adoption of their program. The average decrease reported was 38 percent. Eighty-seven percent of these communities somewhat to strongly agree that unit-based pricing was responsible for the decrease.

- **Reduction in Waste Management Costs.** Cost savings resulting from the implementation of a unit-based pricing program may occur in four areas: 1) decreased landfill tipping fee expenditures; 2) reduced collection costs as routes are more quickly processed; 3) extended landfill life; and 4) increased use of existing recycling programs. Sixty percent of the Iowa communities with unit-based pricing indicated that the cost of their refuse collection and disposal either decreased or stayed the same after the program was implemented.

- **Increased Recycling.** Unit-based pricing and a well-designed recycling program complement one another. Unit-based pricing provides residents with an incentive to increase the amount of material they recycle. Increased recycling actually saves residents money because they are placing less garbage on the curb. Of those communities in Iowa with unit-based pricing that responded to the original survey, 97 percent observed an increase in the amount of material recycled after their programs were implemented, with an average increase of 52 percent. Ninety percent of these communities somewhat to strongly agree that unit-based pricing caused the observed increase in recycling.

- **Protection of the Environment.** Unit-based pricing promotes reduction of waste at the source and increased participation in municipal recycling and yard waste composting efforts. Unit-based pricing, therefore, reinforces the waste management hierarchy established by the Iowa General Assembly. Waste reduction, in turn, extends landfill life, reducing the need to site new landfills.

- **Establishment of a More Equitable Fee Structure.** Traditionally, a community's collection and disposal costs are financed either through a flat fee or property taxes. Households are billed or taxed regardless of the amount of waste they generate. Those households putting out less garbage subsidize households putting out more. In addition, in communities that use property taxes to cover their waste management costs, commercial and business activities are partially subsidizing residential refuse collection and disposal. Unit-based pricing is more equitable because it charges households for garbage pickup and collection based on generation rates. Refer to the "Financial and Rate Structure" section of the guide for a detailed discussion of establishing a more equitable rate structure.

Potential Costs:

- **Illegal Dumping**. Because unit-based pricing will encourage residents to investigate ways to reduce their garbage bill, illegal dumping of garbage along roadsides and in business dumpsters and open burning of garbage may result from instituting a unit-based pricing program. In Iowa, only 39 percent of responding communities with unit-based pricing felt their program had an effect on illegal dumping. Increased illegal dumping can be prevented through a comprehensive public education campaign, an enforcement strategy with significant penalties, and the presence of a strong recycling program. Communities may also want to consider setting a flat fee in addition to the price per unit. The flat fee may or may not include the collection of one "free" unit. Because the flat fee represents a basic level of service all residents have to pay for, they may be less inclined to illegally dump. Bulky items, such as tires and appliances, represent a large part of the waste disposed of illegally. It is important for communities to provide an acceptable way to dispose or recycle these items.

- **Revenue Adequacy and Stability**. Because unit-based pricing uses a price per unit method instead of a flat fee or property taxes to cover solid waste management costs and promotes waste reduction, planning for a stable revenue stream is more difficult. As the amount of waste landfilled decreases so does the revenue generated to cover waste management costs. To ensure revenue adequacy and stability, communities should take the time to determine how much garbage will be generated once unit-based pricing is implemented and then price garbage collection and disposal accordingly. Communities should consider charging a flat fee in addition to the price per unit. The flat fee will ensure a constant revenue stream, while the unit price will encourage waste reduction. Refer to the "Financial and Rate Structure" section for a detailed discussion of revenue adequacy and stability.

- **Increased Costs.** Depending upon the complexity of the unit-based pricing program, administration costs may increase as a result of rate setting, increased staff time, and new billing procedures. Sixty percent of the responding communities in Iowa with unit-based pricing indicated refuse collection costs had either decreased or stayed the same after unit-based pricing was instituted. Similarly, 57 percent of the responding communities noted unit-based pricing had decreased staff workload or had no appreciable effect on staff time.

- **Multi-Family Housing.** Multi-family housing presents a challenge to a unit-based pricing program. Residents in multi-family housing typically take their waste to a centralized location, such as an outside dumpster for disposal. Therefore, identifying the waste generated by each housing unit and charging accordingly is difficult. However, landlords may be receptive to experimenting with unit-based pricing since it could reduce their overall cost. Thirty-eight percent of responding Iowa communities with unit-based pricing indicated that their programs serve multi-family housing of five units or more.

- **Public Education.** Effectively educating the public about unit-based pricing was most cited by Iowa communities as the greatest hurdle to overcome in implementing their programs. Communities must inform residents about the goals of the program, how it will be structured, and opportunities to reduce waste. Refer to the "Education and Promotion" section of this guide for a complete discussion.

Design Options

There are five major design options available to communities implementing unit-based pricing. Tables I through V summarize the advantages and disadvantages of each type and list the communities in Iowa that are currently using each type of program. Communities should recognize that with each type of program there are opportunities for experimentation and modification. Building flexibility into a unit-based pricing program allows communities to fine tune the program as it is implemented. The design options are:

- **Pre-Paid Bag**. With a pre-paid bag design, residents may only dispose of garbage in distinctively marked bags sold by the municipality through City Hall or local retailers. Usually a household is able to dispose of an unlimited amount of waste as long as the waste is properly bagged. The fee per bag is used to cover waste management costs. Some municipalities offer a variety of bag sizes and corresponding bag prices. In addition to the volume limit of the bag, typically 20 to 30 gallons, a weight limit is usually set. In Iowa, 12 communities use a pre-paid bag system to finance their waste management programs.

- **Pre-Paid Tag or Sticker**. With a pre-paid tag or sticker design, only garbage containers bearing the correct tag or sticker are collected. The tags and stickers are purchased through City Hall or local retailers. Households are allowed to place an unlimited number of containers on the curbside as long as they bear the required tag or sticker. The fee per tag or sticker provides for collection and disposal of a specific size of container with a volume and/or weight limit. Some communities also set a tag/sticker schedule for bulky items such as appliances and furniture. Each type of bulky item must bear a predetermined number of tags or stickers based upon its size and difficulty to handle. In Iowa, 12 communities use pre-paid tag or sticker systems in their unit-based pricing program.

- **Subscription System**. With a subscription design, households sign up for collection and disposal of a specific number or size of containers of garbage for each billing period. Households generating garbage above their subscribed level of service must purchase additional tags if they want additional containers to be collected. Twelve communities in Iowa use a subscription system.

- **Weight-Based System**. With a weight-based system, residents pay a fee per pound of garbage collected. Municipalities use scales and electronic identification to weigh the waste collected and bill the household. Because the system is based upon a price per

pound, every pound of waste reduced will lower the household's overall cost. No communities in Iowa currently employ a weight-based system.

- **Hybrid System.** A hybrid system combines a flat fee with some form of fee per unit. Municipalities with this system often offer a basic level of service, such as collection of one unit of garbage. Any units above the first must bear the appropriate tag, bag, or sticker. Hybrid systems with a pre-paid bag or tag/sticker variable component are the most popular in Iowa, used by 99 communities.

Table 1. Pre-Paid Bag

Households pay a fee by purchasing "official" distinctively marked, standard-sized trash bags, typically 20 to 30 gallons in capacity. Residents purchase bags from municipal offices and/or retail stores. Only garbage in "official" bags is collected.

Advantages	Disadvantages	Communities Using This System
Residents find bag systems easy to understand. Bag systems might offer a stronger waste reduction incentive than subscription systems because fees typically are based on smaller increments of waste. Accounting costs are lower than with subscription systems, since no billing system is needed. Bag systems have lower distribution, storage, and inventory costs than subscription systems when bags are sold at local retail establishments and municipal offices. Bag collection tends to be faster and more efficient than nonautomated subscription collections. Bags can be used to indicate that the proper fees have been paid for bulky items or white goods, since fees for pickup of these items often are assessed by communities. Communities can ask residents to attach a certain number of bags to the items according to the cost of disposal (for example, two bags for a couch and three bags for a washing machine). Opportunity to offset costs by selling advertising on "official" bags.	Greater revenue uncertainty than with subscription system, since the number of bags residents purchase can fluctuate significantly. If bags are sold in municipal offices, extra staff time will need to be committed. Residents might view a requirement to buy and store bags as an inconvenience. Bags are more expensive to produce than tags or stickers. Bags often are incompatible with automated and semi-automated collection equipment. Animals can tear bags and scatter trash, or bags can tear during lifting. Unlike cans, bags are not reused, adding to the amount of solid waste entering the waste stream. Residents using containers may object to having to switch to bags. Weight of bags due to "stuffing" might be a problem unless weight restrictions are instituted and enforced.	Belmond, IA Brooklyn, IA Calamus, IA Clarion, IA Dows, IA Montezuma, IA Nashua, IA Olds, IA Rake, IA Rowan, IA Scarville, IA Williamsburg, IA

Sources: AMRC. 1993. *AMRC User Pay Program Implementation Kit*; USEPA. 1994. *Pay-As-You-Throw: Lessons Learned About Unit Pricing*, EPA530-R-94-004; Skumatz, Lisa A. 1993. *Variable Rates for Municipal Solid Waste: Implementation Experience, Economics, and Legislation.*

Table II. Pre-Paid Tag/Sticker

Households pay a fee by purchasing "official" tags or stickers. The fee covers a specific size, or sizes of, containers. Tags or stickers are purchased from municipal offices and/or retail stores. Only containers of garbage with the "official" tag or sticker are collected.

Advantages	Disadvantages	Communities Using This System
Tag and sticker systems are easier and less expensive to implement than subscription systems. Residents often find tag or sticker systems easier to understand. These systems offer a stronger waste reduction incentive than subscription systems because fees are based on smaller increments of waste. Accounting costs are lower than with subscription systems, since no billing system is needed. Selling tags or stickers at local retail establishments and municipal offices offers lower distribution, storage, and inventory costs than subscription systems. The cost of producing tags or stickers for sale to residents is lower than for bags. Stickers can be used to indicate payment for bulky items or white goods, since fees for pickup of these items often are assessed by communities. Residents can choose between bags or cans *BUT* size and type of can or bag would still have to be restricted to specified size/type.	There is greater revenue uncertainty than with subscription systems, since the number of tags or stickers residents purchase can fluctuate significantly. To avoid confusion among residents, the municipality must establish and clearly communicate the size limits allowable for each sticker. If tags or stickers are sold in municipal offices, extra staff time will need to be committed. Residents might view a requirement to buy and store stickers or tags as an inconvenience. Tags and stickers often do not adhere in rainy or cold weather. Extra time might be needed at curb for collectors to enforce size limits. In addition, there may be no incentive for strict enforcement if haulers are paid based on the amount of waste collected. Stickers left on trash at curbside could be removed by vandals or by other residents hoping to avoid paying for waste services. Tags and stickers are not as noticeable as bags or other prepaid indicators and may slow down collection.	Atkins, IA Bettendorf, IA Britt, IA Camanche, IA Colwell, IA Ionia, IA Kalona, IA Newton, IA Orchard, IA University Heights, IA University Park, IA Woodburn, IA

Sources: AMRC. 1993. *AMRC User Pay Program Implementation Kit*, USEPA. 1994. *Pay-As-You-Throw: Lessons Learned About Unit Pricing*, EPA530-R-94-004, Skumatz, Lisa A. 1993. *Variable Rates for Municipal Solid Waste: Implementation Experience, Economics, and Legislation*.

Table III. Subscription Systems

Households sign up for collection of a specific size or number of containers of garbage per billing period. Charges are based on the amount of service chosen, with higher service levels costing more. Tags, bags, or stickers are required above subscription level.

Advantages	Disadvantages	Communities Using This System
Revenues are fairly stable and easy to forecast. Unlike bags, containers often work well with semi-automated or automated collection equipment (if containers are chosen that are compatible with this equipment). If residents already own containers of roughly uniform volume, new containers might not be required. Containers may be labeled with addresses to assist in enforcement. Containers prevent animals from scattering the waste. Not adding more plastic (garbage bags) to landfill.	Containers often have higher implementation costs, including the purchase and distribution of containers. Customers have a limited incentive to reduce waste. Since residents are usually charged on a subscription basis, there is no incentive not to fill containers already purchased. In addition, no savings are possible below the smallest size trash container. Relatively complex billing systems are needed to track resident's selected subscription level and bill accordingly. Complex storage, inventory, and distribution systems are required to provide new containers to households that change their subscription level. A method of collecting and charging for waste beyond subscription levels and for bulk waste collections needs to be established. At the outset, residents may find it difficult or confusing to select a subscription level. There may be disputes with residents on the number of containers set out. Nonautomated container collections tend to require greater time and effort than collecting waste in bags. A cash flow problem may exist due to lag time between paying waste contractor and collecting fees for service based on use.	Albion, IA Cedar Falls, IA Clemons, IA Gilman, IA Haverhill, IA Laurel, IA Liscomb, IA Rhodes, IA Russell, IA Waterloo, IA Winterset, IA Woodbine, IA

Source: Please refer to Tables I, II, IV, & V.

Table IV. Weight-Based Systems

Households pay a set fee per pound of garbage contained in designated containers. The garbage is weighed upon delivery or pick-up.

Advantages	Disadvantages	Communities Using This System
Measures more precise increments of waste generation than do volume-based systems. Better recycling incentive. Encourages waste reduction at all waste-generation levels. Fair and easily understood. Favorable customer survey reaction.	At present, weight-based systems exist only in pilot program form in the U.S. Need more complicated billing system. Special trucks, labeling of cans require extra expense. Weights and measures not yet approved.	

Sources: AMRC. 1993. *AMRC User Pay Program Implementation Kit*, USEPA. 1994. *Pay-As-You-Throw: Lessons Learned About Unit Pricing*, EPA530-R-94-004; Skumatz, Lisa A. 1993. *Variable Rates for Municipal Solid Waste: Implementation Experience, Economics, and Legislation.*

Table V. Hybrid Systems

Base rate systems provide a standard level of service with a variable component. All households pay a set fee (base rate) for a given amount of service and then pay per container for any garbage disposed of above the base amount. A base rate system can be used with any of the standard systems.

Advantages	Disadvantages	Communities Using This System
Offers communities a transition from the traditional financing system to a variable rates option. Mitigates revenue risk by recovering some costs through traditional financing method. Allows time for customers and officials to develop system familiarity. Doesn't "lock-in" a community to a specific type of system. Can be implemented quickly, inexpensively, and easily, and can be later replaced or modified into a full subscription, bag, or tag system, under a hand dump, semi-automated, or fully automated system. Allows time for further planning. Allows time for data collection. No new billing system is needed.	Customer incentives to reduce waste are truncated at the lowest service level. Full costs of household waste collected and disposed of is not explicitly reflected to customers. Customer may not understand why they have to pay two fees for garbage disposal.	Agency, IA Burt, IA Center Point, IA Clinton, IA Corning, IA Ely, IA Grundy Center, IA Hills, IA Holland, IA Kensett, IA Keswick, IA Lake View, IA Lisbon, IA Lone Tree, IA Marble Rock, IA Martinsburg, IA Millersburg, IA Mitchell, IA Mount Pleasant, IA Mount Vernon, IA Nora Springs, IA North English, IA Osage, IA Otteson, IA Palo, IA Prairie City, IA St. Ansgar, IA South English, IA Stout, IA Sumner, IA What Cheer, IA **Note**: This is not a complete list, please refer to the "Quick Reference Guide" in Appendix A for a complete list.

Sources: AMRC. 1993. *AMRC User Pay Program Implementation Kit*; USEPA. 1994. *Pay-As-You-Throw: Lessons Learned About Unit Pricing*, EPA530-R-94-004; Skumatz, Lisa A. 1993. *Variable Rates for Municipal Solid Waste: Implementation Experience, Economics, and Legislati-*

Education and Promotion

Effective promotion and education during planning and implementation of a community's unit-based pricing program is the most important element in ensuring the program's success. Iowa communities with unit-based pricing most often cited informing and educating the public about the "new" system as the major hurdle to overcome in establishing a program. Consequently, taking the time and committing the resources to build support, both in-house and within the community, will reduce unnecessary obstacles to successful implementation.

The promotion and education component of a unit-based pricing program should have three goals: 1) to build support and understanding of the program within the municipal government; 2) to build community awareness and support for the program; and 3) to sustain community and staff support for the program after implementation.

In-House Support

To build internal support, it is first necessary to identify the staff and departments within the municipal government that may be affected by the implementation of a unit-based pricing program. Stakeholders may include: recycling/environmental committee; finance department; public works department; city council; landfill operator; police department; planning department; sanitation staff; and haulers. A meeting of the stakeholders to allow for a discussion of concerns and opinions will go a long way in developing an acceptable program. A unit-based pricing committee or advisory group including these stakeholders could be established to assist in planning the program. To familiarize the committee with the issues surrounding unit-based pricing, municipal staff should show the video *Solid Waste Strategies: Unit-Based Pricing*.

At this point, the staff and the committee should set objectives for the program. The objectives structure planning and implementation of the unit-based pricing program and provide a way to measure the program's success. Specific objectives will vary from community to community. Once the objectives have been defined, however, a community should follow through with them. Examples of objectives include:

- To provide incentives for waste reduction and recycling consistent with the waste management hierarchy established by the Iowa General Assembly;
- To ensure revenue adequacy and stability to cover all waste management costs including those associated with landfill closure and post-closure;
- To avoid or mitigate possible adverse environmental impacts associated with a unit-based system, such as illegal dumping or burning;
- To implement and operate the unit-based pricing system cost-effectively;
- To address equity issues involving large families and lower incomes.

Municipal staff and the committee should also identify the potential benefits and costs of implementing a unit-based pricing program. By fully understanding the benefits of a unit-based system, municipal staff will be able to better promote the system. Similarly, understanding the potential costs of the program will allow for structuring the system to minimize these costs.

Community Support

To build community awareness and support for the unit-based program, it is important to identify both potential allies and opponents of the program. Municipal staff should select both allies and opponents to participate in the unit-based pricing committee. In this way,

debate takes place in a controlled environment and participants are given a sense of ownership because of involvement in the decision-making process.

Clear and concise program information should be made available to the public well in advance of the program start date. Such information includes:

- The purpose of implementing a unit-based pricing program;
- The types and costs of all services offered under the new program;
- The schedule for collections;
- The method of fee collection;
- The methods or outlets for purchasing the required bags, tags, stickers, or subscription level;
- The penalties for noncompliance;
- The options for source reduction and recycling.

Explaining the objectives of the program and offering information on waste reduction and recycling are the key elements in educating the public. If the public believes the new pricing structure is arbitrary and is unaware of ways to reduce their waste, the program will fail. By getting residents to support the program and explaining how they can save money by disposing less garbage, municipal staff will be effecting long-term behavioral changes in waste generation. There are many methods to disseminate program specifics to the public. Examples of promotional and educational materials used in existing unit-based pricing communities are available from the East Central Iowa Council of Governments and the Iowa Department of Natural Resources.

Promotional strategies may include:

- **Unit-Based Pricing Video**. The video, *Solid Waste Strategies: Unit-Based Pricing*, is an effective way to introduce the concept of unit-based pricing to both the staff and the public.

- **Public Meetings**. Public meetings give municipal staff the opportunity to explain and make the case for unit-based pricing while receiving input from the public.

- **Introductory Letter**. A letter from the city council to all households explaining why a unit-based program is being implemented and the importance of participation is a good way to introduce the program to the public.

- **Educational Brochure and Promotional Refrigerator Magnet**. An educational brochure contains all the information needed for residents to understand and participate in the program. A colorful refrigerator magnet reminds residents to fully participate in the program.

- **Promotional Poster**. Posters promoting the program are distributed to schools, libraries, municipal offices, and stores. Promotional material in stores is especially valuable if the program uses bags, tags, or stickers that are purchased in the stores. In addition, distribution through stores increases merchant support of unit-based pricing and ensures that merchants are familiar with the program.

- **Press Releases and Public Service Announcements for Television and Radio**. The media is an important ally in promoting the program. Through the media, up-to-date information and reports on the program's success is made available to a broad range of residents.

- **Tags, Stickers, and Bags.** Basic information explaining the unit-based program can be included on the bags, tags, and stickers required for collection. In addition, a city-wide contest for designing the bags, tags, or stickers can "kick off" the program.

- **Speakers Bureau.** Municipal staff and members of the unit-based pricing committee explain the program to neighborhood associations, civic organizations, and environmental groups.

- **Feedback Tags.** Feedback tags that are left by collection crews provide an opportunity for immediate feedback to all participants especially if a correction is needed in the way a household is handling its refuse.

- **Telephone Hotline.** A telephone hotline provides residents with immediate answers to their questions concerning the new system. It is important to thoroughly train the staff who will be answering question concerning the unit-based pricing program. With a well-trained staff, answers to questions are consistent and clear. Table VI lists commonly asked questions and suggested answers that staff may use.

Each community's timetable for education and promotion may be different. Public education and publicity is a continuing process. Communication between and among municipal staff and citizens must be established and sustained to allow for questions, input, and changes. A community's educational approach continues after unit-based pricing has been implemented. A recommended timetable for implementation of a unit-based pricing program is included in Appendix B of the guide.

Table VI. Commonly Asked Questions

What is a unit-based pricing program?

Unit-based pricing, also known as variable rate pricing, pay-as-you-throw, or user-pay, is a system under which residents pay for municipal solid waste management services per unit of waste collected rather than through a fixed fee. In other words, the more a household throws away, the more that household pays.

Won't a unit-based pricing program promote an increase in illegal dumping and burning?

Possibly. Most communities have a certain amount of illegal dumping even in areas where a flat fee or property taxes are used to cover the cost of residential collection or disposal. Communities which have implemented unit-based pricing report little or no increase in illegal dumping. For example, 27 communities in Iowa with unit-based pricing felt their program had an effect on illegal dumping. However, 43 communities felt that their program had no effect on illegal dumping. Ongoing education supported by increased police observation and stiff penalties will help curb this problem.

Is a unit-based pricing program unfair to large families?

No. Large households will have the same opportunity to reduce their waste as smaller households. In fact, some research shows that larger households generate less garbage per person than smaller households. Remember, a unit-based pricing system is equitable in the same way that other utilities such as water, gas, and electricity are: the more of a service a household uses the more that household pays.

Will this program be financially unfair to low income households?

There is no doubt that the price of a tag, bag, or sticker will represent a larger portion of a lower income. However, all residents will have the same opportunity to reduce their costs through reduction of their waste. In addition there are creative solutions to addressing the effect of a unit-based pricing system on low income residents while still providing an incentive to reduce. For example, a community with a flat fee and a price per unit could reduce the flat fee for low income households.

The cost of garbage collection and disposal has always been included in property taxes or a flat fee, so why am I paying extra now?

Landfill space is diminishing and the costs of siting a new landfill are extremely high. Paying for garbage collection and disposal by the unit gives residents an incentive to reduce the amount of waste they throw away through increased recycling and source reduction. Consequently, valuable landfill space will be preserved.

Financial and Rate Structure

One of the most important elements in designing a unit-based pricing program is establishing an effective rate structure. Along with raising sufficient revenues to cover the fixed and variable costs of the solid waste program, unit-based rates should send clear price signals to citizens to encourage waste reduction. This section presents a six-step process to assist communities in designing and evaluating a preliminary unit-based rate structure. The process should be completed after the objectives and components of a community's unit-based pricing program have been identified. An example based on a hypothetical town is provided at the end of this section.

As the six steps are completed, a few basic points should be kept in mind.

- Determine current level of revenue, its source, and what costs the revenue covers.
- Raise sufficient revenues to cover fixed costs and variable costs.
- Possibly raise revenues beyond the cost of the program to cover other waste management costs. These revenues might be used for anti-littering campaigns or to discourage illegal dumping.
- Send clear price signals to citizens to encourage waste reduction.
- Charge appropriate fees to cover the costs of (1) recycling and other complementary programs, (2) providing services (such as backyard collection) for physically limited or disabled people, and (3) providing discount pricing to low-income households.
- Compile accurate municipal solid waste (MSW) baseline data to be used when evaluating the unit-based pricing program.
- Design a program to make participation simple and to keep administrative costs low, thereby reducing waste generation and waste collection bills.
- Consider the goals of the unit-based pricing program, community-specific conditions, and the most promising suggestions from municipalities with existing unit-base pricing programs to ensure a program tailored to the waste management needs and concerns of the community.

STEP 1 Demand

Estimate Total Amount of Waste Generated in the "Steady State"

Because the amount of waste a community generates affects the level of resources (including trucks, labor, and administrative support) required to manage it, there is a need to accurately estimate what the community's waste generation rate will be after a unit-based pricing program is fully established. The period after program implementation is referred to as the "steady-state." In the steady-state, residents have accepted unit-based pricing and reduced their waste generation rates accordingly, and the municipality's waste management operations have adjusted to new, lower waste collection requirements.

Ensuring that the revenues received under the unit-based pricing program will cover the program's costs is a critical factor for most communities. Accurately estimating the amount of waste collected in the steady-state is an important first step in determining how much money unit-based pricing will actually generate. To develop an estimate, perform the following calculations:

- **Current demand.** Using waste hauling records or an average per capita generation rate, estimate the amount of waste collected from residents last year.

- **Community growth.** Next, estimate the population growth trends and other demographic patterns in the community. Use this information to estimate the demand for waste management services over the next one or two years. (**Note:** If special programs are planned for low-income, elderly, or multi-family households, estimate the population trends of these residents or households as well.)

- **Impact of unit-based pricing.** Then, estimate the likely impact (i.e., household responsiveness) of unit-based pricing on the demand for waste services. Communities

with existing unit-based programs might be a good source of information on the degree of waste reduction to be expected. In Iowa, the amount of garbage landfilled decreased in 73 of the responding communities with unit-based pricing programs, with an average reported decrease of 38 percent. The largest decrease was 80.5 percent and the smallest decrease was 11 percent. The potential success of a unit-based pricing program should not be underestimated, especially if strong education and complementary recycling and composting programs are planned.

STEP 2 Components

Determine the Components of the Unit-Based Pricing Program

After clarifying the community's goals and considering the pros and cons of the unit-based pricing program options, municipal leaders and staff will be ready to determine the collection methods and other details of the unit-based pricing program, including:

- **Containers.** Decide whether the unit-based pricing program would be most effective using bags, tags, stickers, a subscription system, or some type of hybrid system. In Iowa, 63 percent of responding communities with unit-based pricing use tags or stickers, 36 percent use uniform bags, and 1 community uses a subscription system. Sixty communities (72 percent) use a hybrid system consisting of a flat fee in addition to a unit-based charge. The average flat fee reported is $6.56 with the minimum being $1.00/month and the maximum $11.00/month.

- **Service options.** While most unit-based pricing programs include curbside collection or drop-off of recyclables, community leaders and staff should investigate additional services such as picking up bulky items (i.e. couches, chairs) and white goods (i.e. refrigerators, stoves).

- **Complementary waste management programs.** If the community is not already operating waste management programs like recycling or yard waste composting, implementation may enhance the effectiveness of the unit-based pricing program and help meet other community goals. Ninety-eight percent of the communities in Iowa with unit-based pricing offer some form of recycling.

- **Residents of multi-family buildings and low-income residents**. A community needs to determine if the economic benefits of unit-based pricing will be extended to residents of multi-family buildings and how to deal with the needs of low-income residents and the elderly. For example, Mount Vernon, Iowa reduces the impact of its unit-based program on households with lower incomes by reducing their flat fee charges. In this way, Mount Vernon retains the pricing incentive to reduce waste, while making the system more equitable for lower incomes.

STEP 3 Costs

Estimate the Costs of the Unit-Based Pricing Program

Having determined the structure of the program and the services to include, list all associated costs. Categories of costs include:

- **Start-up costs.** Estimate the one-time costs the community will incur when implementing the unit-based pricing program, such as training personnel, purchasing new containers, and designing and implementing a new billing process.

- **Ongoing costs.** Estimate the costs the program will incur on an ongoing basis. These costs include variable costs (such as landfill tipping fees) and more stable or fixed costs (including rent and utilities for agency offices and office supplies) that remain relatively constant despite fluctuations in the amount of waste collected. Communities might find it useful to employ full cost accounting procedures to better understand the exact costs of the different projects planned as part of the unit-based pricing program. For example, communities that own or operate a landfill will want to establish financial assurance for the maximum cost of closing a landfill. Financial assurance ensures that the owner adequately plans for the future costs of closure, post-closure care, and corrective action for known releases. Of the respondents to the state-wide survey, thirty-one (40 percent) communities stated the cost of refuse collection had increased after implementing unit-based pricing. Eighteen (23 percent) stated it had decreased, and 29 (37 percent) stated it was unaffected.

STEP 4 Rates

Develop a Tentative Unit-Based Pricing Rate Structure

Having determined the components of the program, a tentative rate structure can be set. At this point, the rates should be considered rough estimates to be revised and refined based on the overall revenues generated and residents acceptance of costs. Rates used by neighboring communities with similar programs or price ranges found in Iowa or nationally can be used to establish initial rates. Refer to the "Quick Reference Guide" in Appendix A for a description of the rate structures established in communities in Iowa with unit-pricing.

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STEP 5 Revenues

Calculate the Revenues from Unit-Based Pricing

Once the program is established and residents have adjusted their waste generation rates, community leaders and staff have the information needed to estimate the revenues that unit-based pricing will generate. Divide the total amount of waste generated per month in the steady-state (estimated in Step 1) by the volume of containers (established in Step 2). This calculation provides an estimate of the number of containers of solid waste the community should expect to collect per month. Next, multiply the estimated number of containers by the unit charge tentatively established in Step 4. This calculation yields an estimate of the total revenues per month generated.

Depending on the number of services offered and the pricing system chosen by the community, these calculations can be simple or complex. For example, communities using containers of varying sizes and offering additional services (such as bulky item collection) must estimate the revenues produced by each component of their solid waste program. In addition, if low-income households are subsidized under the program, calculate the size of the subsidies and subtract from the expected revenues. If the community has chosen a hybrid system, revenue from the flat fee must be included in the total revenue.

STEP 6 Balance

Evaluate and Adjust the Preliminary Unit-Based Pricing Program

For most communities, comparing the anticipated costs of their unit-based pricing program (Step 3) against expected revenues (Step 5) is a critical indicator of whether the program is viable. If this comparison indicates that the costs of your program might not be fully covered by its revenues, community leaders and staff will need to review both the design of the program (Step 2) and the rates the community plans to charge (Step 4). Several revisions of program options and rate structures may be required to achieve a unit-based pricing program that most closely meets the goals established by the community in the planning phase.

Once the program strikes a working balance between costs incurred for services provided and the prices residents will be charged, it might be appropriate to submit the program design to other municipal officials or community leaders and representatives for additional review.

STEPS 1- 6 The Six Steps in Action:

Designing a Rate Structure for Community A

To illustrate the steps in action follow Community A, a hypothetical town, as it designs a rate structure for its new unit-based pricing program based on its own particular goals and concerns.

Estimating waste generation rates. Community A's records show that it collected 1800 tons of solid waste from residents last year. City officials realize that the population of the town is likely to increase next year after a large multi-use building complex is completed. Based on population projections prepared by town planners and current generation rates, officials estimate that within two years residents will generate nearly 2200 tons of solid waste annually. Within this two-year period, however, officials hope their unit-based pricing program will have reached its steady-state, and residents will be generating less waste. Using data from three nearby, demographically similar towns with established unit-based pricing programs, municipal officials estimate that two years after implementation of the unit-based pricing program the community will generate about 1600 tons of waste annually.

Establishing rates. At this stage in the design process, municipal officials in Community A decide to use the median rate of the prices charged by other demographically similar communities ($1.50 per 40 lbs bag). In addition, Community A decides to maintain their $7.00 per month garbage fee.

Calculating revenues. Dividing the annual amount of solid waste Community A expects to generate in the steady-state (1600 tons) by the size of their waste container (40 lbs or .02 tons) shows that the municipality can expect to collect over 80,000 bags each year.

By multiplying this figure by the price per bag ($1.50), officials calculate that Community A should receive about $120,000 in revenues from the sale of its official garbage bags.

1600 tons (waste generated in steady state) ÷ **0.02 tons** (weight limit/bag) = **80,000** (bags)

80,000 (bags) x **$1.50/bag** = **$120,000**

By multiplying their monthly fee of $7.00 by 12 (number of months in 1 year) and then multiplying that number by the number of households (1000), officials calculated that the community should receive $84,000 from its base fee. By adding the revenue from the sale of official bags ($120,000) to the revenue from the base fee ($84,000), the total revenue Community A should receive from their "Hybrid" unit-based pricing program is $204,000.

80,000 (bags) x $1.50/bag = $120,000

\+ **$7.00/household x 1000 households x 12 months = $84,000**

Total Revenue =$204,000

Calculating costs. Community A estimates that the annual steady-state cost of its program will be approximately $220,000. This figure includes fixed costs (such as public education efforts, computers and other office materials, and enforcement efforts) and approximately $60,000 in tipping fees and other variable costs. Additional start-up expenses will also be incurred.

Comparing costs and revenues. When a comparison of the expected revenues and costs showed that the program would result in excess costs, municipal officials decided to raise the price charged per bag to $1.75. This new price would yield a projected $224,000 annually, closer to the town's actual costs of maintaining the program.

80,000 tags x $1.75/tag = $140,000

+ $7.00/household x 1000 households x 12 months = $84,000

Total Revenue = $224,000

Case Studies

The City of Clinton

The City of Clinton, a community with a population of approximately 29,000 residents (11,000 households) located along the Mississippi River in eastern Iowa, implemented a unit-based pricing program in 1992. The City of Clinton is the first of Iowa's ten largest communities to use unit-based pricing for solid waste management.

Under Clinton's program, which serves single family housing only, residents purchase stickers for $1.15 each at local grocery and convenience stores. Each container of garbage, with limits of no more than 33 gallons and 40 pounds, must have a sticker attached. In addition to the per container cost, a flat monthly fee of $2.00 per household is charged. The flat fee was reduced to $1.50 in mid 1994.

Initially, the City of Clinton did not charge a flat fee. However, city officials found they could not afford to rely solely on the sale of stickers to cover their program costs. Although the amount of waste being landfilled decreased by 30 percent in the first year of the unit-based pricing program, the City also found itself short of income to cover its waste management costs, especially those costs associated with a voluntary curbside recycling program implemented in conjunction with unit-based pricing. Instead of raising the sticker price, city officials decided to set a flat fee to cover the cost of recycling. This fee is billed quarterly as a surcharge on sewer bills.

Overall resident acceptance of Clinton's unit-based pricing program has been favorable. To educate residents about the program, the City of Clinton printed announcements in local newspapers and distributed an informational brochure door-to-door. The most significant hurdle city officials experienced in implementing unit-based pricing has been educating residents about "...the change from an apparently free system to a user fee." An

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increase in dumping of residential waste in businesses' dumpsters and burning of garbage were also cited as problems once the program was in place.

City officials indicated that the cost of refuse collection increased once unit-based pricing was adopted, but cited their curbside recycling program as the cause. No appreciable difference in staff time was noted as a result of the unit-based pricing program.

Although any fee-based system will generate some resistance and avoidance, the population of Clinton readily accepted a dramatic change in solid waste service with very few problems. As George Langmack, Clinton City Administrator, summarized "...one day in 1992 the service of no-fee pickup of unsegregated waste was replaced with a pay-per-bag waste and curbside recycling service. Within two weeks it appeared the system had been in place for two years."

The City of Mount Pleasant

The City of Mount Pleasant, a community with a population of approximately 8030 residents (3000 households) located in Henry County in southeastern Iowa, implemented a unit-based pricing program in 1990. Mount Pleasant was one of the first communities in Iowa to use unit-based pricing in its waste management effort.

Under Mount Pleasant's program, which serves single family housing and multi-family housing of four units or less, residents purchase tags for $1.00 each at local grocery, convenience, and hardware stores. Each container of garbage, with limits of no more than 33 gallons and 75 pounds, must have a tag attached. In addition to the per container cost, a flat monthly fee of $3.00 per household is charged.

Resident acceptance of Mount Pleasant's unit-based program has been favorable. To promote the program, city officials used mailings, newspaper articles, and public service announcements. Two hurdles were cited by city officials in instituting the program. First,

some citizens initially cheated the system through illegal dumping of their garbage. However, the incidence of illegal dumping has decreased over time. The second hurdle came in educating residents about the purpose of a flat fee.

Neither the cost of refuse collection nor the amount of staff time devoted to waste management increased after Mount Pleasant adopted unit-based pricing. However, Mount Pleasant's unit-based pricing program in combination with a voluntary curbside and drop-off recycling program had immediate and impressive results. The amount of waste Mount Pleasant landfills decreased 45 percent in the year following adoption of unit-based pricing, while the amount of material recycled increased 50 percent.

The City of Mount Vernon

The City of Mount Vernon is a college community with a population of approximately 3700 residents (1000 households) located in Linn County in east central Iowa. The City implemented its unit-based pricing program in 1991. Mount Vernon's program has been innovative and successful in a number of ways.

Under Mount Vernon's program, which serves both single family and multi-family housing, residents purchase tags for $1.75 each at local businesses and City Hall. Each container of garbage, with limits of no more than 33 gallons and 40 pounds, must have a tag attached. Bulky items, such as appliances and furniture, must have a number of tags attached for disposal. The number of tags needed for a bulky item is set by the hauler based upon size and special handling requirements. In addition to the per tag cost, a flat monthly fee of $7.00 per household is charged.

Overall resident acceptance of unit-based pricing in Mount Vernon has been somewhat favorable. Mount Vernon used a number of methods to educate the public about the program. These methods include mailings, newspaper articles, and public service announcements. The City regularly mails literature to each household providing an

updated list of recyclables. Effectively educating residents was still cited by city officials as the greatest hurdle to overcome in implementing their unit pricing program. Additionally, an increase in illegal dumping, especially in business dumpsters, has been observed since Mount Vernon adopted its program.

Mount Vernon's unit-based program has been successful in both reducing the amount of waste landfilled and increasing the amount of material recycled. Mount Vernon has achieved a 34 percent reduction in waste landfilled. This reduction value consists of 1) a 16 percent reduction resulting from recycling activities, and 2) a 18 percent reduction resulting from source reduction. City officials indicated that the cost of refuse collection increased after instituting the program.

Mount Vernon reduces the impact of its unit-based program on low-income households by reducing their flat fee. In this way, Mount Vernon retains the pricing incentive to reduce waste, while making the system more equitable across incomes.

Appendix A

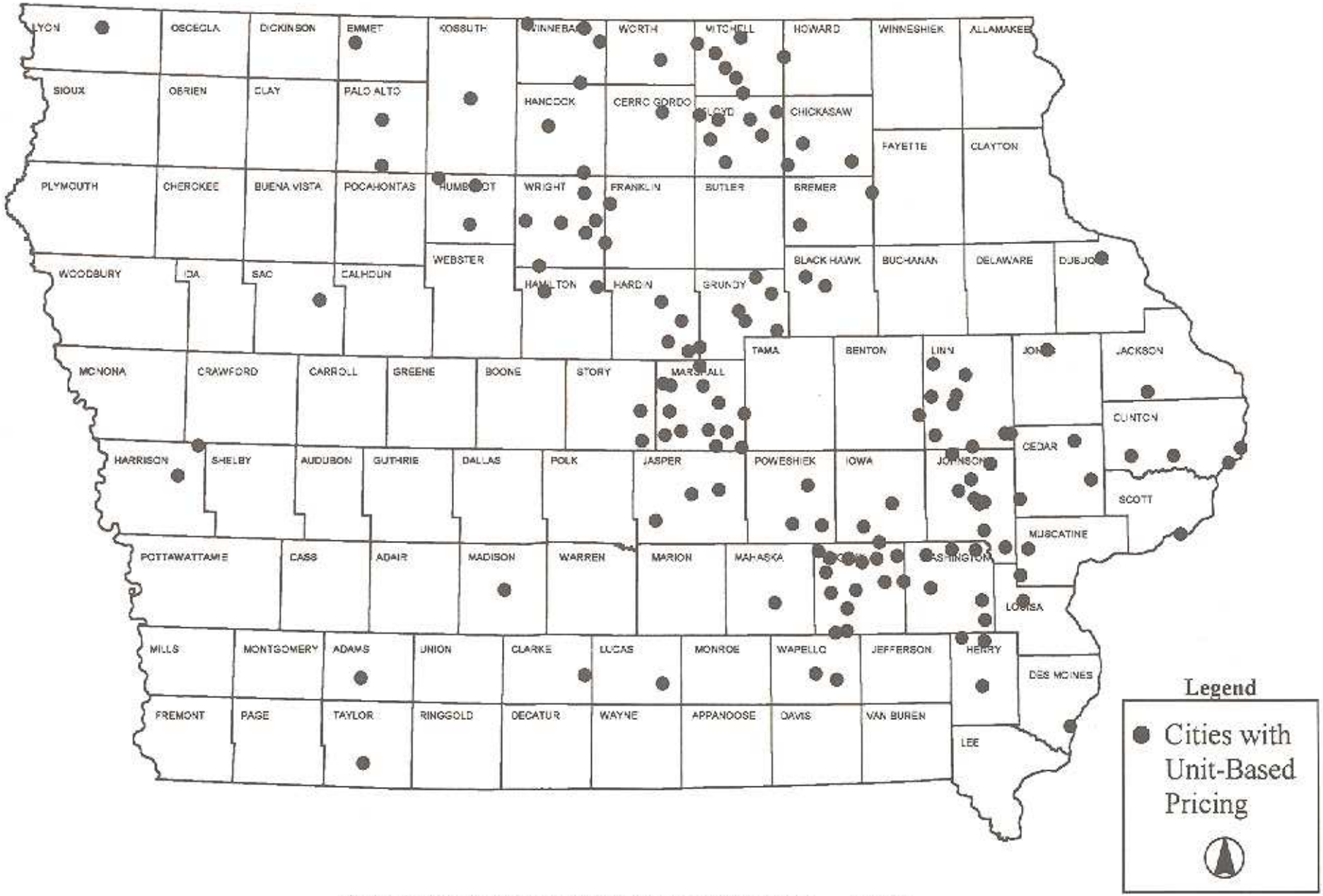
I. Communities in Iowa with Unit-Based Pricing Programs by County

II. Communities in Iowa with Unit-Based Pricing Programs by Population

III. Quick Reference Guide of Unit-Based Pricing Programs in Iowa

IV. Samples of Iowa Community Unit-Based Pricing Ordinances

Communities in Iowa with Unit-Based Pricing Programs by County



ADAMS
Corning

BENTON
Atkins

BLACK HAWK
Cedar Falls
Waterloo

BREMER
Sumner
Waverly

CEDAR
Bennett
Clarence
West Branch

CERRO GORDO
Mason City

CHICKASAW
Fredericksburg
Ionia
Nashua

CLARKE
Woodburn

CLINTON
Calamus
Camanche
Clinton
De Witt

DES MOINES
Burlington

DUBUQUE
Rickardsville

EMMET
Estherville

FLOYD
Charles City
Colwell
Floyd
Marble Rock
Nora Springs
Rockford
Rudd

FRANKLIN
Alexander

GRUNDY
Dike
Grundy Center
Holland
Reinbeck
Stout

HAMILTON
Webster City
Williams

HANCOCK
Britt
Goodell

HARDIN
Eldora
New Providence
Owasa
Union
Whitten

HARRISON
Dunlap
Woodbine

HENRY
Mount Pleasant
Olds
Wayland

HUMBOLDT
Humboldt
Livermore
Ottosen

IOWA
Millersburg
North English
Williamsburg

JACKSON
Maquoketa

JASPER
Kellogg
Newton
Prairie City

JOHNSON
Coralville
Hills
Iowa City
Lone Tree
North Liberty
Solon
Swisher
Tiffin
University Heights

JONES
Monticello

KEOKUK
Delta
Gibson
Harper
Hayesville
Hedrick
Keota
Keswick
Kinross
Martinsburg
Sigourney
South English
Thornburg
Webster
What Cheer

KOSSUTH
Burt

LINN
Alburnett
Center Point
Ely
Fairfax
Hiawatha
Lisbon
Mount Vernon
Palo
Robins

LOUISA
Fredonia

LUCAS
Russell

LYON
Rock Rapids

MADISON
Winterset

MAHASKA
University Park

MARSHALL
Albion
Clemons
Ferguson
Gilman
Haverhill
Laurel
Le Grand
Liscomb
Marshalltown
Melbourne
Rhodes
Saint Anthony
State Center

MITCHELL
Carpenter
Mitchell
Orchard
Osage
Riceville
Saint Ansgar
Stacyville

MUSCATINE
Conesville
Nichols

PALO ALTO
Emmetsburg
Mallard

POWESHIEK
Brooklyn
Deep River
Montezuma

SAC
Lake View
Sac City

SCOTT
Bettendorf

STORY
Colo
Collins

TAYLOR
Bedford

WAPELLO
Agency
Ottumwa

WASHINGTON
Ainsworth
Crawfordsville
Kalona
Riverside
Wellman
West Chester

WINNEBAGO
Forest City
Lake Mills
Rake
Scarville

WORTH
Kensett

WRIGHT
Belmond
Clarion
Dows
Galt
Goldfield
Rowan
Woolstock

Communities in Iowa with Unit-Based Pricing by Population

CITY	COUNTY	POPULATION
Galt	WRIGHT	30
Owasa	HARDIN	37
Hayesville	KEOKUK	59
Ottosen	HUMBOLDT	70
Gibson	KEOKUK	75
Thornburg	KEOKUK	76
Scarville	WINNEBAGO	79
Kinross	KEOKUK	90
Colwell	FLOYD	91
Orchard	MITCHELL	93
Webster	KEOKUK	93
Carpenter	MITCHELL	106
St. Anthony	MARSHALL	112
Harper	KEOKUK	124
Whitten	HARDIN	132
Haverhill	MARSHALL	137
Fredonia	LOUISA	143
Millersburg	IOWA	153
Martinsburg	KEOKUK	158
Alexander	FRANKLIN	159
Crawfordsville	WASHINGTON	163
Clemons	MARSHALL	171
Mitchell	MITCHELL	173
Ferguson	MARSHALL	177
Rowan	WRIGHT	177
West Chester	WASHINGTON	185
Stout	GRUNDY	192
Woolstock	WRIGHT	195
Holland	GRUNDY	198
Goodell	HANCOCK	207
Rickardsville	DUBUQUE	210
New Providence	HARDIN	212
South English	KEOKUK	212
Olds	HENRY	226
Rake	WINNEBAGO	234
Woodburn	CLARKE	251
Liscomb	MARSHALL	256
Rhodes	MARSHALL	262
Keswick	KEOKUK	269
Laurel	MARSHALL	271
Mallard	PALO ALTO	308
Conesville	MUSCATINE	315
Ionia	CHICKASAW	328
Deep River	POWESHIEK	336
Kensett	WORTH	340
Marble Rock	FLOYD	343
Delta	KEOKUK	391
Williams	HAMILTON	408
Calamus	CLINTON	409
Livermore	HUMBOLDT	418

Communities in Iowa with Unit-Based Pricing by Population

CITY	COUNTY	POPULATION
Union	HARDIN	429
Floyd	FLOYD	438
Bennett	CEDAR	441
Nichols	MUSCATINE	452
Stacyville	MITCHELL	458
Collins	STORY	469
Rudd	FLOYD	477
Alburnett	LINN	489
Tiffin	JOHNSON	513
Russell	LUCAS	526
Ely	LINN	539
Palo	LINN	539
Ainsworth	WASHINGTON	572
University Park	MAHASKA	575
Albion	MARSHALL	583
Agency	WAPELLO	615
Burt	KOSSUTH	620
Gilman	MARSHALL	646
Kellogg	JASPER	651
Goldfield	WRIGHT	723
Dows	WRIGHT	729
Melbourne	MARSHALL	737
What Cheer	KEOKUK	738
Atkins	BENTON	768
Hills	JOHNSON	799
Swisher	JOHNSON	804
Fairfax	LINN	821
Riceville	HOWARD	821
Hedrick	KEOKUK	841
Dike	GRUNDY	895
Le Grand	MARSHALL	899
Colo	STORY	922
Riverside	WASHINGTON	926
Rockford	FLOYD	941
North English	IOWA	965
Wayland	HENRY	980
St. Ansgar	MITCHELL	996
Clarence	CEDAR	1006
Keota	KEOKUK	1029
Solon	JOHNSON	1061
University Heights	JOHNSON	1080
Fredericksburg	CHICKASAW	1087
Lone Tree	JOHNSON	1090
Wellman	WASHINGTON	1136
Dunlap	HARRISON	1181
Robins	LINN	1248
Lake View	SAC	1296
Prairie City	JASPER	1407
State Center	MARSHALL	1476
Brooklyn	POWESHIEK	1477

Communities in Iowa with Unit-Based Pricing by Population

CITY	COUNTY	POPULATION
Nora Springs	FLOYD	1505
Bedford	TAYLOR	1516
Woodbine	HARRISON	1551
Reinbeck	GRUNDY	1641
Lisbon	LINN	1659
Nashua	CHICKASAW	1661
Montezuma	POWESHIEK	1725
Corning	ADAMS	1726
Center Point	LINN	1970
Britt	HANCOCK	1994
Sigourney	KEOKUK	2061
Lake Mills	WINNEBAGO	2069
West Branch	CEDAR	2074
Kalona	WASHINGTON	2097
Sumner	BREMER	2130
Williamsburg	IOWA	2343
Belmond	WRIGHT	2518
Sac City	SAC	2566
Rock Rapids	LYON	2600
Grundy Center	GRUNDY	2638
Clarion	WRIGHT	2821
Eldora	HARDIN	2933
Osage	MITCHELL	3575
Monticello	JONES	3633
North Liberty	JOHNSON	3677
Mount Vernon	LINN	3863
Emmetsburg	PALO ALTO	3964
Winterset	MADISON	4408
Humboldt	HUMBOLDT	4412
Forest City	WINNEBAGO	4428
Camanche	CLINTON	4442
De Witt	CLINTON	4963
Hiawatha	LINN	5133
Maquoketa	JACKSON	6517
Estherville	EMMET	6789
Charles City	FLOYD	7970
Webster City	HAMILTON	8030
Mount Pleasant	HENRY	8374
Waverly	BREMER	9001
Coralville	JOHNSON	11654
Newton	JASPER	14915
Ottumwa	WAPELLO	24629
Marshalltown	MARSHALL	24938
Burlington	DES MOINES	27573
Mason City	CERRO GORDO	28817
Clinton	CLINTON	28966
Bettendorf	SCOTT	30640
Cedar Falls	BLACK HAWK	33908
Iowa City	JOHNSON	60655
Waterloo	BLACK HAWK	66537

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Agency	1992	Residents set out one 30 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 30 gallon can or bag with 25 lb limit	Hybrid/Tag/Sticker	$10.25	$1.00/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Ainsworth		$1.25 per 30 gallon bag, $.75 per 13 gallon bag	Hybrid/Bag	$5.00	$.75/bag $1.25/bag	
Albion	1995		Subscription			
Alburnett	1993	Residents set out one 40 lb can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 33 gallon bag or can with 40 lb limit	Hybrid/Tag/Sticker	$9.00	$1.00/tag	refuse and recycling collection only
Alexander						
Atkins	1995	$.80 per can or bag with 40 lb limit	Pre-Paid Tag/Sticker	$0.00	$.80/tag	
Bedford	1994	Residents set out one 30 gallon can or bag at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 30 gallon can or bag	Hybrid/Tag/Sticker	$8.50	$1.00/tag	
Belmond	1996	$1.50 per 33 gallon bag, $1.25 per 13 gallon bag	Pre-Paid Bag	$0.00	$1.25/bag $1.50/bag	
Bennett	1991	$.85 per 13 gallon bag with 15 lb limit, $1.40 per 30 gallon bag with 30 lb limit, $1.75 per 30 gallon bag with 45 lb limit	Hybrid/Tag/Sticker	$8.00	$.85/tag $1.40/tag $1.75/tag	refuse collection only
Bettendorf	1995	$.60 per 32 gallon bag with 50 lb limit	Pre-Paid Tag/Sticker	$0.00	$.60/tag	residential recycling program, recycling drop-off center, and the yard waste program
Britt	1991	$1.25 per 30 gallon can or bag with 50 lb limit	Pre-Paid Tag/Sticker	$0.00	$1.25/tag	
Brooklyn	1993	$1.50 per 30 gallon bag, $1.00 per 13 gallon bag	Pre-Paid Bag	$0.00	$1.00/bag $1.50/bag	refuse collection and disposal only

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Burlington	1995	Residents set out one 33 gallon can or bag at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$7.60	$1.00/tag	
Burt	1992	$.50 per 30 gallon can or bag with 75 lb limit	Hybrid/Tag/Sticker	$4.00	$.50/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Calamus	1991	$2.00 per bag with 55 lb limit	Pre-Paid Bag	$0.00	$2.00/bag	refuse collection only
Camanche	1992	$2.00 per can or bag with 40 lb limit	Pre-Paid Tag/Sticker	$0.00	$2.00/tag	refuse and recycling collection only
Carpenter	1996					
Cedar Falls	1994	$1.25 per 33 gallon can with 40 lb limit	Subscription	$13.00	$1.25/tag	
Center Point	1993	Residents set out one 33 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 33 gallon can or bag with 40 lb limit	Hybrid/Tag/Sticker	$9.00	$1.00/tag	refuse and recycling collection only
Charles City	1992	$1.20 per 33 gallon can or bag with 70 lb limit	Hybrid/Tag/Sticker	$6.25	$1.20/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Clarence	1991	Residents set out one can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $.85 per 13 gallon bag with 15 lb limit, $1.40 per 30 gallon bag with 30 lb limit, $1.75 per 30 gallon bag with 40 lb limit	Hybrid/Tag/Sticker	$9.79	$.85/tag $1.40/tag $1.75/tag	refuse collection and disposal only

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Clarion	1995	$1.40 per 30 gallon bag, $1.15 per 15 gallon bag	Pre-Paid Bag	$0.00	$1.15/bag $1.40/bag	
Clemons	1995	30 gallon can or bag	Subscription	$12.50		
Clinton	1992	$1.50 per can or bag with 40 lb limit	Hybrid/Tag/Sticker	$1.50	$1.15/tag	refuse and recycling collection only
Collins	1994	$.50 per 13 gallon bag, $1.00 per 40 gallon bag	Hybrid/Bag	$7.00	$.50/bag $1.00/bag	
Colo	1993	$1.00 per bag with 40 lb limit	Hybrid/Bag	$7.00	$1.00/bag	refuse collection and disposal only
Colwell		$1.42 per 33 gallon can or bag with 70 lb limit	Pre-Paid Tag/Sticker	$0.00	$1.42/tag	
Conesville	1994	$1.10 per 30 gallon bag	Hybrid/Bag	$8.00	$1.10/bag	refuse collection and disposal only
Coralville	1991	$1.00 per 30 gallon bag with 50 lb limit	Hybrid/Tag/Sticker	$7.50	$1.00/tag	refuse collection and disposal only
Corning	1992	Residents set out one 30 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 30 gallon can or bag	Hybrid/Tag/Sticker	$7.50	$1.00/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Crawfordsville		$.75 per 13 gallon bag, $1.25 per 30 gallon bag	Hybrid/Bag	5.00	$.75/bag $1.25/bag	
De Witt	1992	$1.50 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$4.00	$1.50/tag	refuse and recycling collection, processing and marketing
Deep River	1993	$1.50 per 33 gallon bag	Hybrid/Bag	$7.20	$1.50/bag	all solid waste management costs, including program administration and education

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Delta	1993	Residents set out one 30 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.25 per 30 gallon can or bag	Hybrid/Tag/Sticker	$8.00	$1.25/tag	refuse collection only
Dike	1989	Residents set out one 40 gallon bag per week at no direct charge; additional bags are purchased at city hall or library. Bags are $1.00 per 40 gallon bag with 40 lb limit	Hybrid/Bag	$4.75	$1.00/bag	refuse collection only
Dows	1995	$1.25 per 15 gallon bag, $1.50 per 30 gallon bag	Pre-Paid Bag	$0.00	$1.25/bag $1.50/bag	
Dunlap	1995	Residents set out two 30 gallon bags per week at no direct charge; additional bags are purchased at city hall. Bags are $.50 per 30 gallon bag	Hybrid/Bag	$9.18	$.50/bag	
Eldora	1996	$1.25 per 30 gallon can or bag with 40 lb limit	Hybrid/Tag/Sticker	$6.50	$1.25/tag	
Ely	1993	$1.00 per 33 gallon can or bag with 40 lb limit	Hybrid/Tag/Sticker	$7.00	$1.00/tag	refuse collection and disposal only
Emmetsburg	1994	$2.00 per 40 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$9.00	$2.00/tag	
Estherville	1972	$.25 per 30 gallon bag with 50 lb limit	Hybrid/Bag	$4.50	$.25/bag	
Fairfax	1992	$1.00 per can or bag with 40 lb limit	Hybrid/Tag/Sticker	$10.00	$1.00/tag	refuse collection and disposal only
Ferguson	1995					
Floyd	1993	$1.20 per 33 gallon can or bag with 70 lb limit	Hybrid/Tag/Sticker	$6.25	$1.20/tag	all solid waste management costs, including program administration and education
Forest City	1992	$2.00 per 33 gallon bag	Hybrid/Bag	$8.00	$2.00/bag	

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Fredericksburg	1994	Residents set out one 35 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 35 gallon can or bag	Hybrid/Tag/Sticker	$8.00	$1.00/tag	
Fredonia	1994	$1.10 per 30 gallon bag	Hybrid/Bag	$8.00	$1.10/bag	
Galt						
Gibson	1994	$0.77 per 13 gallon bag, $1.30 per 30 gallon bag	Hybrid/Bag	$4.00	$.77/bag $1.30/bag	
Gilman	1995	30 gallon can or bag	Subscription	$12.50		
Goldfield						
Goodell	1995	$1.00 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$7.50	$1.00/tag	
Grundy Center	1989	$1.00 per bag with 40 lb limit	Hybrid/Bag	$6.00	$1.00/bag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Harper		$1.00 per 30 gallon bag	Hybrid/Bag	$7.86	$1.00/bag	
Haverhill	1995	30 gallon can or bag	Subscription	$12.50		
Hayesville		$1.00 per 30 gallon bag	Hybrid/Bag	$7.86	$1.00/bag	
Hedrick		$1.25 per 30 gallon can or bag	Hybrid/Tag/Sticker	$8.43	$1.25/tag	
Hiawatha	1994	Residents set out one 30 gallon or 50 lb can or bag per week at no direct charge; additional cans or bags must be taggged. Tags are $1.00 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$8.50	$1.00/tag	all solid waste management costs, including program administration and education
Hills	1991	$.50 per 15 gallon bag with 25 lb limit, $1.00 per 35 gallon bag with 50 lb limit	Hybrid/Bag	$8.50	$.50/bag $1.00/bag	refuse and recycling collection only

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Holland	1991	$1.00 per can or bag	Hybrid/Tag/Sticker	1.00	$1.00/tag	refuse collection and disposal only
Humboldt	1995	$0.90 per 20 gallon bag, $1.35 per 33 gallon bag	Hybrid/Bag	5.00	$.90/bag $1.35/bag	
Ionia	1992	$1.45 per 30 gallon can or bag with 50 lb limit	Pre-Paid Tag/Sticker	$0.00	$.85/tag $1.45/tag	refuse collection and disposal only
Iowa City	1996	Residents set out two cans or bags per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$11.55	$1.00/tag	
Kalona	1991	$.85 per 20 gallon can or bag with 40 lb limit	Pre-Paid Tag/Sticker	$0.00	$.85/tag	refuse collection and disposal only
Kellogg						
Kensett		Residents have two options; they may pay a $9.50 flat fee with no volume limit; or a $4.50 flat fee, and set out one 30 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.25 per 30 gallon can or bag	Hybrid/Bag	$4.50	$1.25/bag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Keota	1993	$0.77 per 13 gallon bag, $1.30 per 30 gallon bag	Hybrid/Bag	5.00	$.77/bag $1.30/bag	refuse collection and disposal only
Keswick	1993	Residents set out one 30 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.25 per 30 gallon can or bag with 30 lb limit	Hybrid/Tag/Sticker	$7.95	$1.25/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Kinross		$0.77 per 13 gallon bag, $1.30 per 30 gallon bag	Hybrid/Bag	$4.00	$.77/bag $1.30/bag	

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Lake Mills	1994	Residents set out one 33 gallon can or bag per week at no direct charge; additional bags are purchased at city hall or grocery stores. Bags are $1.00 per 33 gallon bag	Hybrid/Bag	$3.00	$1.00/bag	refuse collection and disposal only
Lake View	1993	$1.00 per 30 gallon bag	Hybrid/Bag	$0.00	$1.00/bag	cost of container and disposal only
Laurel	1995	60 gallon can or bag	Subscription	$14.00		
Le Grand	1995					
Lisbon	1992	$1.75 per 33 gallon can or bag with 40 lb limit	Hybrid/Tag/Sticker	$7.50	$1.75/tag	refuse collection and disposal only
Liscomb	1995	30 gallon can or bag	Subscription	$16.00		
Livermore	1991	Residents set out one can or bag per week at no direct charge; additional bags are purchased at city hall. Bags are $.20 per 30 gallon bag	Hybrid/Bag	$6.50	$.20/bag	refuse collection only
Lone Tree	1991	$1.00 per 20 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$4.33	$1.00/tag	refuse collection and disposal only
Mallard	1994	$1.50 per 30 gallon bag	Hybrid/Bag	5.00	$1.50/bag	
Maquoketa	1994	Residents set out two bags per week at no direct charge; additional bags must be tagged. Tags are $1.50 per 35 gallon can or bag	Hybrid/Tag/Sticker	$12.25	$1.50/tag	
Marble Rock	1993	$1.20 per 33 gallon can or bag with 70 lb limit	Hybrid/Tag/Sticker	$6.25	$1.20/tag	refuse collection only
Marshalltown	1994					
Martinsburg	1993	Residents set out one 30 gallon can or bag per week at no additional charge; additional bags are purchased from council members. Bags are $1.50 per 30 gallon bag	Hybrid/Bag	$8.35	$1.50/bag	refuse and recycling collection only

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Mason City	1993	Residents et out one 30 gallon or 50 lb can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 30 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$5.50	$1.00/tag	refuse collection and disposal only
Melbourne	1994	30 gallon can or bag with 65 lb limit				
Millersburg	1992	$.75 per 13 gallon bag, $1.25 per 30 gallon bag	Hybrid/Bag	$7.00	$.75/bag $1.25/bag	refuse collection only
Mitchell	1992	$1.20 per can or bag	Hybrid/Tag/Sticker	$6.60	$1.20/tag	refuse collection only
Montezuma	1994	$1.00 per 13 gallon bag, $1.50 per 30 gallon bag	Pre-Paid Bag	$0.00	$1.00/bag $1.50/bag	refuse collection and disposal only
Monticello	1991	$.50 or $.75 per bag depending on size	Hybrid/Bag	$6.00	$.50/bag $.75/bag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Mount Pleasant	1990	$1.00 per 33 gallon can or bag with 75 lb limit	Hybrid/Tag/Sticker	$3.00	$1.00/tag	refuse collection and disposal only
Mount Vernon	1991	$1.75 per can or bag with 40 lb limit	Hybrid/Tag/Sticker	$7.00	$1.75/tag	refuse and recycling collection, processing and marketing
Nashua	1992	$0.90 per 16 gallon bag, $1.30 per 30 gallon bag with 50 lb limit	Pre-Paid Bag	$0.00	$.90/bag $1.30/bag	refuse collection and disposal only
New Providence						
Newton	1994	Residents set out one can or bag per week that is covered through property taxes; additional cans or bags must be tagged. Tags are $1.00 per 35 gallon can or bag with 65 lb limit	Pre-Paid Tag/Sticker	$0.00	$1.00/tag	refuse collection only
Nichols	1992	$1.10 per 30 gallon bag	Hybrid/Bag	$8.00	$1.10/bag	refuse and recycling collection only

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Nora Springs	1992	$1.00 per 40 gallon can or bag with 70 lb limit	Hybrid/Tag/Sticker	$6.25	$1.00/tag	refuse collection only
North English	1993	$.75 per 13 gallon bag, $1.25 per 30 gallon bag	Hybrid/Bag	$8.00	$.75/bag $1.25/bag	refuse and recycling collection, processing and marketing
North Liberty	1992	$.95 per 20 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$4.00	$.95/tag	refuse collection only
Olds	1992	$.75 per 13 gallon bag, $1.25 per 30 gallon bag	Pre-Paid Bag	$0.00	$.75/bag $1.25/bag	refuse collection and disposal only
Orchard		$1.20 per can or bag	Pre-Paid Tag/Sticker	$0.00	$1.20/tag	
Osage	1992	$1.20 per 40 gallon can or bag with 75 lb limit	Hybrid/Tag/Sticker	$7.40	$1.20/tag	refuse collection only
Ottosen	1991	Residents set out on 30 gallon bag per week at no direct charge; additional bags are purchased at grocery store. Bags are $2.00 per 30 gallon bag with 40 lb limit	Hybrid/Bag	$7.00	$2.00/bag	refuse and recycling collection only
Ottumwa	1992	Residents set out one 30 gall can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 30 gallon can or bag	Hybrid/Tag/Sticker	$9.50	$1.00/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Owasa						
Palo	1993	Residents set out one 40 lb can or bag per week at no direct cost; additional cans or bags must be tagged. Tags are $1.00 per can or bag with 40 lb limit	Hybrid/Tag/Sticker	$8.00	$1.00/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Prairie City	1991	Residents set out one 30 gallon or 50 lb can or bag per week at no direct charge; additional cans or bag must be tagged. Tags are $1.00 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$8.65	$1.00/tag	refuse and recycling collection, processing and marketing

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Rake	1994	$1.45 per bag with 30 lb limit	Pre-Paid Bag	$0.00	$1.45/bag	
Reinbeck	1989	$.75 per 30 gallon bag	Hybrid/Bag	$5.25	$.75/bag	
Rhodes	1995	30 gallon can or bag	Subscription	$12.50		
Riceville		$5.00 per bag	Hybrid/Bag	$8.25	$5.00/bag	
Rickardsville						
Riverside	1993	$1.00 per 20 gallon bag, $1.95 per 30 gallon bag	Hybrid/Bag	$3.50	$1.00/bag $1.95/bag	refuse collection and disposal only
Robins	1993	Residents set out one 40 lb can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per can or bag with 40 lb limit	Hybrid/Tag/Sticker	$13.00	$1.00/tag	refuse collection and disposal only
Rock Rapids	1992	Residents set out one 32 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 32 gallon can or bag	Hybrid/Tag/Sticker	$6.50	$1.00/tag	refuse and recycling collection only
Rockford	1992	$1.20 per can with 75 lb limit	Hybrid/Tag/Sticker	$7.60	$1.20/tag	refuse and recycling collection, processing and marketing
Rowan	1996	$1.25 per 15 gallon bag, $1.50 per 30 gallon bag	Pre-Paid Bag	$0.00	$1.25/bag $1.50/bag	
Rudd	1992	$1.20 per 33 gallon can or bag with 70 lb limit	Hybrid/Tag/Sticker	$6.25	$1.20/tag	both flat fee and unit cost are pooled to cover all solid waste management costs, including program administration and education
Russell	1994	Residents pay $6.00 per month for one 30 gallon can or bag per month, $9.00 per month for two 30 gallon cans or bags per month or $11.00 per month for two 30 gallon cans or bags per week	Subscription			

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Sac City	1993	$.30 per 30 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$11.00	$.30/tag	disposal only
Saint Ansgar	1992	$1.20 per 40 gallon can or bag	Hybrid/Tag/Sticker	$6.75	$1.20/tag	refuse collection and disposal only
Saint Anthony	1995	30 gallon can or bag	Hybrid/Tag/Sticker	$14.50		
Scarville	1992	$1.50 per bag with 30 lb limit	Pre-Paid Bag	$0.00	$1.50/bag	refuse collection only
Sigourney	1992	$1.00 per 33 gallon can or bag	Hybrid/Tag/Sticker	$4.00	$1.00/tag	refuse collection and disposal only
Solon	1990	Residents purchase one tag for cans or bags 20 gallons or less and two tags for cans or bags larger then 20 gallons. Tags are $1.00 per 20 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$4.50	$1.00/tag	refuse and recycling collection only
South English	1993	$1.00 per 30 gallon bag, $1.75 per 30 gallon bag	Hybrid/Bag	$4.00	$1.00/bag $1.75/bag	refuse collection and disposal only
Stacyville	1993	$1.20 per 33 gallon can or bag	Hybrid/Tag/Sticker	$7.00	$1.20/tag	refuse collection and disposal only
State Center	1990	30 gallon can or bag	Subscription	$18.50		
Stout		$.60 per bag with 40 lb limit	Hybrid/Tag/Sticker	5.00	$.60/tag	refuse collection only
Sumner	1994	Residents set out one 35 gallon can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 35 gallon can or bag	Hybrid/Tag/Sticker	$10.00	$1.00/tag	refuse collection and disposal only
Swisher	1994	Residents set out one can or bag per week at no direct charge; additional cans or bags must be tagged. Tags are $1.00 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$6.00	$1.00/tag	
Thornburg		$1.00 per 30 gallon bag	Hybrid/Bag	$7.86	$1.00/bag	

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
Tiffin	1990	$1.00 per 20 gallon can or bag with 40 lb limit	Hybrid/Tag/Sticker	$4.20	$1.00/tag	refuse collection and disposal only
Union						
University Heights		Residents purchase one tag for cans or bags 20 gallons or less and two tags for cans or bags larger then 20 gallons. Tags are $1.00 with 30 gallon or 50 lb limit	Pre-Paid Tag/Sticker	$0.00	$1.00/tag	
University Park	1993	$1.75 per 33 gallon can or bag with 70 lb limit	Pre-Paid Tag/Sticker	$0.00	$1.75/tag	refuse collection and disposal only
Waterloo	1995	Residents set out three cans or bags per week at no additional cost; additional cans or bags must be tagged. Tags are $1.00 per 33 gallon can or bag with 40 lb limit	Subscription	$10.00	$1.00/bag	
Waverly	1992	$1.25 per 33 gallon can or bag with 50 lb limit	Hybrid/Tag/Sticker	$5.75	$1.25/tag	refuse collection only
Wayland	1990	$.75 per 13 gallon bag, $1.25 per 30 gallon bag	Hybrid/Bag	$6.50	$.75/bag $1.25/bag	
Webster	1994	$1.25 per 30 gallon can or bag	Hybrid/Tag/Sticker	$7.83	$1.25/tag	
Webster City	1991	$1.25 per 30 gallon bag	Hybrid/Bag	$7.83	$1.25/bag	refuse collection only
Wellman	1992	$0.77 per 13 gallon bag, $1.30 per 30 gallon bag	Hybrid/Bag	$4.00	$.77/bag $1.30/bag	refuse collection and disposal only
West Branch	1990	$.85 per 13 gallon can or bag, $1.40 per 30 gallon can or bag, $1.75 per 30 gallon can or bag with 45 lb limit	Hybrid/Tag/Sticker	$7.75	$.85/tag $1.40/tag $1.75/tag	refuse collection and disposal only
West Chester		$.75 per 13 gallon bag, $1.25 per 30 gallon bag	Hybrid/Bag	5.00	$.75/bag $1.25/bag	

Quick Reference Guide of Communities in Iowa with Unit-Based Pricing

Municipality	Start Date	System	Type	Flat Fee	Unit Cost	Unit Cost Covers
What Cheer	1993	Residents set out one 30 gallon can or bag per week at no additional charge; additional cans or bags must be tagged. Tags are $1.25 per 33 gallon can or bag	Hybrid/Tag/Sticker	$8.00	$1.25/tag	refuse and recycling collection, processing and marketing
Whitten	1994					
Williams	1995	$1.40 per 33 gallon can or bag, $1.15 per 13 gallon can or bag	Hybrid/Bag	$3.06	$1.15/bag $1.40/bag	
Williamsburg	1991	$.75 per 13 gallon bag, $1.25 per 33 gallon bag	Pre-Paid Bag	$0.00	$.75/bag $1.25/bag	all solid waste management costs, including program administration and education
Wintersct	1995	33 gallon can or bag	Subscription	$11.00		
Woodbine	1994	30 gallon can or bag	Subscription	$11.50		
Woodburn	1984	$1.25 per 30 gallon can or bag	Pre-Paid Tag/Sticker	$0.00	$1.25/tag	refuse collection and disposal only
Woolstock	1996		Hybrid/Tag/Sticker	$9.00		
** Keosauqua	1992	Program was in place from Dec. 92 to Dec. 93. Residents set out one 30 gallon can or bag per week; additional cans or bags had to be tagged. Tags were $2.00 with 32 gallon limit.	Hybrid/Tag/Sticker	$9.00	$2.00/tag	refuse and recycling collection only
** Norway	1995	Program ended in April 1995.	Pre-Paid Tag/Sticker	$0.00	$.80/tag	

ORDINANCE NO. 388

CHAPTER 106, of the Code of Ordinances of the City of Clarion, Iowa

Subsection 1. Collection of Solid Waste Fee. Fees for the collection of a solid waste by licensed collectors shall be based upon the volume of waste collected from individual dwelling units in accordance with the following:

A. Bags Available. Each collector shall make readily available for sale to the public plastic bags which can be easily identified as having been purchased from the collector. Bag specification and identification means must be approved by the City.

B. Bag Fee. The cost of bags to the public, whether sold directly by the collector or through other outlets, shall be set annually by the City Council.

C. Bags Required. All waste to be collected shall be placed in approved bags and the bags tied. The tied bags may be placed in rigid containers as long as the bags can be handled separately.

D. Residential bags shall be placed for collection only at the curb of city streets, or in the alleys in the downtown business district.

E. Property Owner's Responsibility. All property owners of apartment dwellings shall be responsible for their tenant's waste being placed in approved bags when containers are provided by the property owner for the storage of such waste awaiting collection.

ORDINANCE NO. 175

Title III, Chapter 4, of the City Code of the City of Prairie City, Iowa

Section 3-4.04 **DUTY TO PROVIDE CONTAINERS.** Each person shall provide a can or cans for the storage of garbage accumulating on the residential or business premises occupied by him. Each person shall provide either cans or other containers approved by the Council for the storage of refuse other than garbage accumulating on the residential or business premises occupied by him. Such cans and other containers shall be kept covered and reasonably clean at all times. No person shall fill a single can or container so that it exceeds in weight, when full, fifty (50) pounds. A container other than a can must be substantially made and be of the size and shape that it may be conveniently handled by the collector. There shall be a limit of one fifty pound container. Extra bags or cans must have a City of Prairie City Solid Waste Sticker attached to be collected. Boxes constructed out of cardboard or other similar material will not be approved by the council as an acceptable container for storage of refuse but will be considered disposable refuse and will be collected by the collector if they are of a size and weight that may be conveniently handled by the collector.

Section 3-4.0415 **SCHEDULE OF FEES.**

1. Residential.

Residential customers	$6.65 per month
Recycling Fee	$2.00 per month

2. Business. Based on volume:

1 container	$ 6.65 per month
2-5 containers	$21.00 per month
5-10 containers	$38.50 per month

ORDINANCE NO. 1994-#137

TITLE III, Chapter 4, "Solid Waste Control" of the City Code of Swisher

Section 3: **Text**:

$6.00 (six dollars) per household for waste pickup, with one free 33-gallon bag or 33-gallon can per week, with a maximum weight of 40 pounds. For those individual landowners of the city who are over the age of 62 (sixty-two), the rate shall be $3.00 (three dollars) per month providing said landowner occupies the residence for which the application is being made. Additional 33-gallon bags and 33-gallon cans will need a tag attached for pickup. Each tag will have a limit of 40 pounds. Tags shall be $1.00 each, plus any handling fee charged by local businesses. Replacement of 18 gallon recycling bin with lid will be $8.00 each.

Appendix B

1. Schedule of Implementation Activities

SCHEDULE OF IMPLEMENTATION ACTIVITIES

IMPLEMENTATION ACTIVITIES	Months Prior To Or Following Implementation						
	Nine	Six	Three	Start Date	Three	Six	Ongoing
CUSTOMER RELATIONS							
Public Outreach							
Brief management and elected officials	X						
Establish unit-based pricing committee	X						
Show video, "Solid Waste Strategies: Unit-Based Pricing"	X						
Conduct focus groups on rate program design and issues	X	X					
Develop information materials for council and press		X					
Hold council hearings and public hearings		X					
Public Relations/Education							
Issue request for proposals (RFPs) for public relations firm, if needed	X						
Design educational materials (bill stuffers, etc.)		X					
Review/refine educational materials			X				X
Produce educational materials			X				X
Distribute educational materials			X				X
Customer Service Staff							
Request additional customer service staff, if needed	X						
Train staff			X				X
PLANNING AND ANALYSIS							
Hire rates analyst (part or full time), if needed	X						
Determine rate setting procedures and calculate rates		X					
Refine rate structure			X				X

SCHEDULE OF IMPLEMENTATION ACTIVITIES

IMPLEMENTATION ACTIVITIES	Months Prior To Or Following Implementation						
	Nine	Six	Three	Start Date	Three	Six	Ongoing
CONTAINERS AND ENFORCEMENT							
Bags, Tags, or Stickers							
Set specification for sticker or bag and design logo	X						
Hold contest for best design	X						
Issue request for proposal for sticker or bag manufacture	X						
Select manufacturer		X					
Negotiate with retail outlets for sticker or bag distribution	X						
Finalize sticker or bag distribution plans		X					
Begin selling stickers or bags in stores				X			
Design feedback tags	X						
Subscription System							
Issue request for proposal for can purchase and distribution, if needed	X						
Decide on can size and purchase containers, if needed		X					
Have residents select can size		X					
Distribute cans			X				
Replace lost, stolen, or wrong sized cans				X			X
Enforcement							
Establish preliminary enforcement procedures	X						
Request equipment and facilities for inspectors	X						
Finalize enforcement procedures		X					
Select and train staff			X	X			
Publicize the penalties for noncompliance			X	X	X	X	X

SCHEDULE OF IMPLEMENTATION ACTIVITIES

IMPLEMENTATION ACTIVITIES	Months Prior To Or Following Implementation						
	Nine	Six	Three	Start Date	Three	Six	Ongoing
SPECIAL GROUPS							
Negotiate with welfare agencies	X						
Develop exemption/discount criteria	X						
Determine responsible office	X						
Create procedures for qualification, disputes, etc.		X					
Finalize criteria and procedures		X					
Train inspectors or qualifiers		X					
Conduct qualifications			X				
MULTI-FAMILY PLANNING							
Evaluate level of multi-family need	X						
Evaluate multi-family pilot options	X						
Conduct pilot program, if appropriate		X	X				
CHANGES TO OTHER PROGRAMS							
Determine which complimentary services to offer		X					
Determine funding source for new and existing complimentary programs		X					
Modify unit pricing program to cover these costs, if necessary			X				
Modify diversion program contracts and procedures as necessary							X
ORDINANCES							
Draft final ordinances for new program		X					
Draft ordinances, as necessary, for dumping, burning, recycling		X					
Enact ordinances			X				
DATA COLLECTION/ANALYSIS							
Analyze information needs and design reporting procedures	X						
Finalize procedures	X						
Conduct baseline data collection		X					X
Begin post-implementation data collection				X			X
Conduct data analysis and program modification					X		X

Reference List

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